DEMONSTRATIONS

Method for the quantitative wash-out of the stomach in the anaesthetized rat

M. A. HETREED and PAMELA HOLTON, *Department of Physiology, St. Mary's Hospital Medical School, London, W2*

Quantitative wash-out of the stomach of the rat in the Ghosh & Schild (1958) preparation is often difficult to achieve. This is because rats' stomachs are full of solid material even after food has been withheld for 48 h and because in the anaesthetized rat the stomach does not drain completely. In order to overcome these difficulties rats were placed in a metabolism cage (to prevent cophrophagy) 48 h before the experiment and fed on a low residue diet (Complan, Glaxo and milk on the first day and lumps of sugar on the second day). On this regime the stomachs contained no solid material. During the experiment 3 ml of saline were left in the stomach for 15 min and then removed by injecting air and saline alternately. The completeness of wash-out was investigated by adding phenol red (phenyl sulphonphthalein) to every alternate 3 ml sample left in the stomach and measuring the recovery after 15 min and after the subsequent 15 min when no extra dye had been added. The results are shown in Table 1.

TABLE 1. *Percentage recovery of phenol red from the stomach of anaesthetized rats (a) 15 min after adding phenol red, (b) at the end of the subsequent 15 minutes*

Expt.	No of observations	(a) Mean S.D.	(b) Mean S.D.
1	6	91·3±4·3	5·6±3·5
2	9	88·2±6·1	11·5±2·8
3	6	92·5±2·5	3·7±3·2
4	7	96·0±5·7	4·0±6·8
5	6	90·0±5·5	4·7±3·6
6	5	96·3±3·5	3·7±2·3
Mean		92·3±4·6	5·5±3·7

REFERENCE

GHOSH, M. N. & SCHILD, H. O. (1958). Continuous recording of acid gastric secretion in the rat. *Br. J. Pharmac. Chemother.*, **13**, 54–61.

A possible role for nucleoside-protein complexes in membrane

J. R. SMYTHIES, *Department of Psychiatry, Royal Edinburgh Hospital, Morningside Park, Edinburgh* 10

The hypothesis has been presented (Smythies, 1971) that complex formation between various phosphorylated nucleosides and protein may play an important role in synaptic function. This is based on the molecular complementarity between guanine (G) and glutamate (glu), cytosine (C) and arginine (arg), adenine (A) and glutamine ($gluNH_2$), and uracil and glutamine, which allows the possibility of forming these Watson-Crick-like ion-dipole or hydrogen bonded aminoacid-base pairs (Fig. 1). Abood & Matsubara (1968) have shown that ATP binds strongly to a protein extracted from rat brain synaptosomes probably by electrostatic bonds to glutamine or asparagine moieties. The G-glu, C-arg and A–$gluNH_2$ pairs are all approximately of the same length and could form ladder-like complexes if the synaptosome protein